

WHAT IS CLAIMED IS:

1. A process for preparing D-pantothenic acid comprising
 - a. culturing a *Coryneform* bacteria comprising an attenuated poxB gene in a medium suitable for producing D-pantothenoic acid; and
 - b. collecting the D-pantothenic acid produced.
2. The process of Claim 1, wherein said poxB gene comprises the nucleotide sequence of SEQ ID NO:12.
3. The process of Claim 1, wherein said poxB gene comprises SEQ ID NO:6.
4. The process of Claim 1, wherein said poxB gene comprises SEQ ID NO:7.
5. The process of Claim 1, wherein said poxB gene comprises SEQ ID NO:4.
- 15 6. The process of Claim 1, wherein said D-pantothenic acid is concentrated prior to said collecting.
7. The process of Claim 1, wherein said D-pantothenic acid is concentrated after said collecting.
8. The process of Claim 1, wherein said poxB gene comprises a nucleotide sequence which hybridizes under stringent conditions to the nucleotide sequence of SEQ ID NO:1 and which encodes a PoxB protein having attenuated PoxB activity, wherein said stringent conditions comprise washing in 5X SSC at a temperature from 50 to 68°C.

9. The process of Claim 1, wherein said *poxB* gene is eliminated in said *Coryneform* bacteria.
10. The process of Claim 1, wherein said *Coryneform* bacteria is *Coryneform glutamicum*.
- 5 11. The process of Claim 1, wherein said *Coryneform* bacterium is selected from the group consisting of *Coryneformbacterium acteoglutamicum*, *Coryneformbacterium acetoacidophilum*, *Coryneformbacterium thermoaminogenes*, *Brevibacterium flavum*, *Brevibacterium lactofermentum*, and *Brevibacterium divaricatum*.
- 10 12. The process of Claim 1, wherein said *Coryneform* bacterium further comprises at least one gene whose expression is enhanced, wherein said gene is selected from the group consisting of *panB*, *panC*, and *ilvD*.
- 15 13. *Escherichia coli* DSM 13114.
14. A process for producing D-pantothenic acid comprising:
- a. transforming a *Coryneform* bacteria with a vector comprising the polynucleotide sequence of SEQ ID NO:3;
 - b. selecting *Coryneform* bacteria that have attenuated *poxB* expression;
 - c. culturing said selected *Coryneform* bacteria in a medium suitable producing D-pantothenic acid; and
 - d. collecting the D-pantothenic acid produced.
- 20 15. The process of Claim 14, wherein said *poxB* gene comprises a nucleotide sequence which hybridizes under

stringent conditions to the nucleotide sequence of SEQ ID NO:1 and which encodes a PoxB protein having attenuated PoxB activity, wherein said stringent conditions comprise washing in 5X SSC at a temperature from 50 to 68°C.

5 16. The process of Claim 14, wherein said *Coryneform* bacteria is *Coryneform glutamicum*.

10 17. The process of Claim 14, wherein said *Coryneform* bacterium is selected from the group consisting of *Coryneformbacterium acteoglutamicum*, *Coryneformbacterium acetoacidophilum*, *Coryneformbacterium thermoaminogenes*, *Brevibacterium flavum*, *Brevibacterium lactofermentum*, and *Brevibacterium divaricatum*.

15 18. The process of Claim 14, wherein said *Coryneform* bacterium further comprises at least one gene whose expression is enhanced, wherein said gene is selected from the group consisting of *panB*, *panC*, and *ilvD*.

19. A *Coryneform* bacteria comprising an attenuated *poxB* gene.

20 20. The *Coryneform* bacteria of Claim 19, which is a *Corynebacterium glutamicum*.

21. The *Coryneform* bacteria of Claim 19, wherein said attenuated *poxB* gene comprises the nucleotide sequence of SEQ ID NO:12.

25 22. A process for producing D-pantothnic acid comprising:

- a. transforming a *Coryneform* bacteria with a vector comprising the polynucleotide sequences of SEQ ID NO:6 and SEQ ID NO:7;
- 5 b. selecting *Coryneform* bacteria that have attenuated *poxB* expression;
- c. culturing said selected *Coryneform* bacteria in a medium suitable producing D-pantothenic acid; and
- d. collecting the D-pantothenic acid produced.
23. The process of Claim 22, wherein said *poxB* gene comprises a nucleotide sequence which hybridizes under stringent conditions to the nucleotide sequence of SEQ 10 ID NO:1 and which encodes a PoxB protein having attenuated PoxB activity, wherein said stringent conditions comprise washing in 5X SSC at a temperature from 50 to 68°C.
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24. The process of Claim 22, wherein a sequence comprising SEQ ID NO:1 is deleted in the attenuated *poxB* gene.
25. The process of Claim 22, wherein said *Coryneform* bacteria is *Coryneform glutamicum*.
- 20 26. The process of Claim 22, wherein said *Coryneform* bacterium is selected from the group consisting of *Coryneformbacterium acteoglutamicum*, *Coryneformbacterium acetoacidophilum*, *Coryneformbacterium thermoaminogenes*, *Brevibacterium flavum*, *Brevibacterium lactofermentum*, and *Brevibacterium divaricatum*.
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27. The process of Claim 22, wherein said *Coryneform* bacterium further comprises at least one gene whose expression is enhanced, wherein said gene is selected from the group consisting of panB, panC, and ilvD.
- 5 28. An isolated polynucleotide comprising the nucleotide sequence of SEQ ID NO:6.
29. An isolated polynucleotide comprising the nucleotide sequence of SEQ ID NO:7.
30. An isolated polynucleotide comprising the nucleotide sequence of SEQ ID NO:12.
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